

Work Order ID 75277

75277

Page 1

October-20-11 7:34:59 AM

Item ID: D212-664-207

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Low Standard Aft

Start Date: 10/20/11 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/25/11 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center-ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D212-664-247

Rev B (DEO)

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-207 CHG002

110

Pick Kit

0.00

110

Packaging

Packaging

Memo

0.00

Packaging

120

BENDING MACHINE - CROSSTUBES

0.00

120

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D212-664-247 using CNC bender program and Folio

ET

11/10/31
JG for MLS 11-10-31

JW

11-10-20

JW/MO

11-10-20

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign. & Date			

NOTE: Date & initial all entries

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QC:

Date:

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Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00

130

QC

Memo

0.00

Quality Control

140

Crosstubes

0.00

140

Crosstubes

Memo

0.00

Crosstubes

1-Drill Rivet holes as per Dwg D212-664-247 using DT8972.***Use T-Pin***

2-Drill pilot holes in tube as per Dwg D212-664-247 using DT8550 and DT8551

3-Ream hole to finish size in tube as per Dwg D212-664-247

4-Deburr & Inspect for surface damage. Repair damage within limits as per
Dwg D212-664-2475-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-
247

85 11-1021
11/10/24
85 11-1021

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Required Date: 10/25/11 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: Date:

Tooling: Date:

Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150 Crosstubes Chemical Conversion

0.00 *mo 11/10/24*

150

HandFXtube

Memo

0.00

Hand Finishing Crosstubes

Chemical Conversion Coat Tube & Cuffs

160 QC3- Inspect Part Finish

0.00

160

QC

Memo

0.00

Quality Control

170 QC5- Inspect part completeness to step on W/O

0.00

170

QC

Memo

0.00

Quality Control

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Reference:

Run Start ***NR1***

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop ***NR2***

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

Outsource process - NDT per QSI038 4.1

0.00

11/10/28

180

Outsource2

Memo

0.00

Outsource process - NDT

Liquid Penetrant Inspection as per QSI 038
Issue P/O: 15287 LPI as per ASTM 1417
Level 2 Attach copy of NDT results to work order

CZ 11/10/28 ①

190

Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

190

Packaging

Memo

0.00

Packaging

Ensure copy of NDT results attached to work order.

P 11/14/28 ②

200

QC5- Inspect part completeness to step on W/O

0.00

200

QC

Memo

0.00

Quality Control

Inspect for damage & ensure results are as per Dwg D212-664-207

ZC 11-10-28

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

0.00

210

Crosstubes

Crosstubes

Memo

0.00

1-Rivet and assemble Cuffs with T-Pin in the through bolt holes as per Dwg
D212-664-247. with Sika flex in Between tube & Cuff

A/R SIKAFLEX -241/-291 BATCH: M119341

Proseal

nl 11-10-27

215

QC5- Inspect part completeness to step on W/O

0.00

215

QC

Memo

0.00

Inspect cuff with T-Pin

Quality Control

① 11-10-27

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Item ID: D212-664-207

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N900040100Setup Start ***NS1***

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1

Cust Item ID:

Required Date: 10/25/11 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

220

Spray Painting per QSI005 4.2

0.00

220

SprayPaint

Memo

0.00

Spray Painting


1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 10:00Finish Time: 11:00

PAINT:

Start Time: 3:00Finish Time: 4:00 11-10-27 (1)

230

QC14- Inspect Spray Paint

0.00

230


QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

 11-10-28

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Item ID: D212-664-207

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Start Date: 10/20/11 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/25/11 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

0.00

240

Crosstubes

0.00

Crosstubes

Memo

Crosstubes

1- Assemble as per Dwg D212-664-247

1-Abrade mating surfaces of support and crosstube with 400 grit sandpaper,
clean the area with 4105S wash 'n' wipe

2-Install supports with Proseal 890 per DSI9563 and QSI 015

A/R Proseal 890 Batch: 116234

3- Torque bolts as per dwg

RT 11-10-29

250

0.00

250

QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

Quality Control

11-10-29 (1)

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Item ID: D212-664-207

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N900040100Setup Start ***NS1***

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1

Cust Item ID:

Required Date: 10/25/11 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

255

Pick Kit

0.00

255

Packaging

Memo

0.00

Packaging

Sep 11-10-31

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

M 11/10/31

270

Packaging

0.00

270

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D212-664-207

Per 11/10/31

New C

Work Order ID 75277

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75277

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Item ID: D212-664-207

Accept

N900040100Setup Start ***NS1***

Revision ID:

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Start Date: 10/20/11 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/25/11 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

280

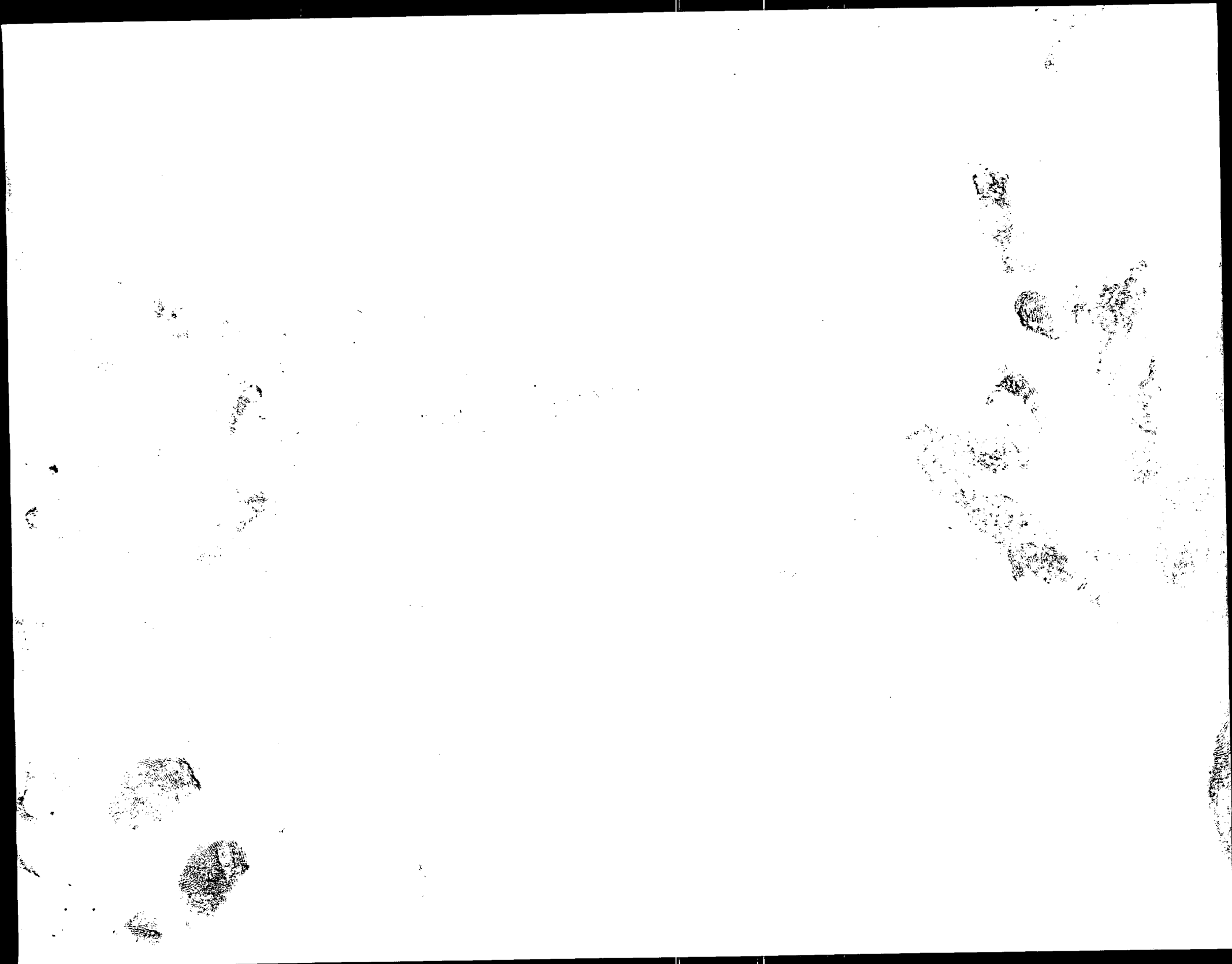
QC

Memo

0.00

Quality Control

W/10/31
mf
11-10-31



Picklist Print

October-20-11 7:34:58 AM

Page 1

Work Order ID: 75277

Parent Item: D212-664-207

Parent Item Name: Crosstube Low Standard Aft

Start Date: 10/20/11

Required Date: 10/25/11

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 07.09.12 EC verified by: JLM
 IPP Rev:B ECN 1100p 08-01-11 DD verified by: EC
 IPP Rev:C ECN 1121 08-02-25 DD verified by: eC
 IPP Rev: D QC5 replaced by QC15 at step 5 KJ Verified by: ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D212-664-207TRNRevA Crosstube Turning Detail		Manufactured	No	B74576		110	Each	0.0000	1	1			
D3660-1 CUFF		Manufactured	No			140	Each	16.0000	2	2			
						<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
						ST477	10						
						53501	1						
						62225	9						
						ST482	6						
						71858	6						
CR3212-4-06 CHERRY RIVET		Purchased	No			220	Each	730.0000	44	44			
						<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
						ST311	730						
						112492	18						
						112794	712						
D3595-063-530 RUBBER CUSHION		Manufactured	No			240	Each	124.0000	4	4			
						<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
						LG	112						
						70067	28						
						72745	84						
						LG055	12						
						63407	6						
						67185	6						

RT

11-10-21

x2

11-10-31

x4

RT 11-10-29

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

October-20-11 7:34:58 AM

Page 2

Work Order ID: 75277

Parent Item: D212-664-207

Parent Item Name: Crosstube Low Standard Aft

Start Date: 10/20/11

Required Date: 10/25/11

Start Qty: 1.00

Required Qty: 1.00

D2940-1
Support

Manufactured No

240 Each 17.0000 2

2
BT 11-10-29

Location Loc Qty Loc Code

LG052 17

71308 17

MS21920-28
Clamp(per MIL-DTL-8783C)

Purchased No

240 Each 128.0000 4 4

BT 11-10-29

Location Loc Qty Loc Code

FG 5

105884 5

LG050 123

116839 2

117998 4

118713 17

119285 100

X4

D3428-1
Placard

Manufactured No

255 Each 23.0000 1 1

SP

Location Loc Qty Loc Code

ST053 23

72048 3

73498 20

1K

MS21042L6
Nut

Purchased No

255 Each 1.744.0000 6 6

SP

Location Loc Qty Loc Code

ST300 744

117677 88

118384 8

118927 48

118968 600

ST518 1000

119075 1000

6x

AN960JD616
Washer

NAS1149D0663J

Purchased No

255 Each 0.0000 18 18

MIL 8614 SP 11-1031

October-20-11 7:34:59 AM

Shop Packet Print

Page 2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 75277

Parent Item: D212-664-207

Parent Item Name: Crosstube Low Standard Aft

Start Date: 10/20/11

Required Date: 10/25/11

Start Qty: 1.00

Required Qty: 1.00

AN6-40A Purchased

No

255

Each

63.0000

4

4

Bolt

Location

Loc Qty

Loc Code

ST342

50

118422

50

ST343

13

117688

13

AN6-41A

Purchased

No

255

Each

34.0000

2

2

Bolt

Location

Loc Qty

Loc Code

ST344

34

117366

14

118451

20

SP

2x

SP 11-10-31

2x

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

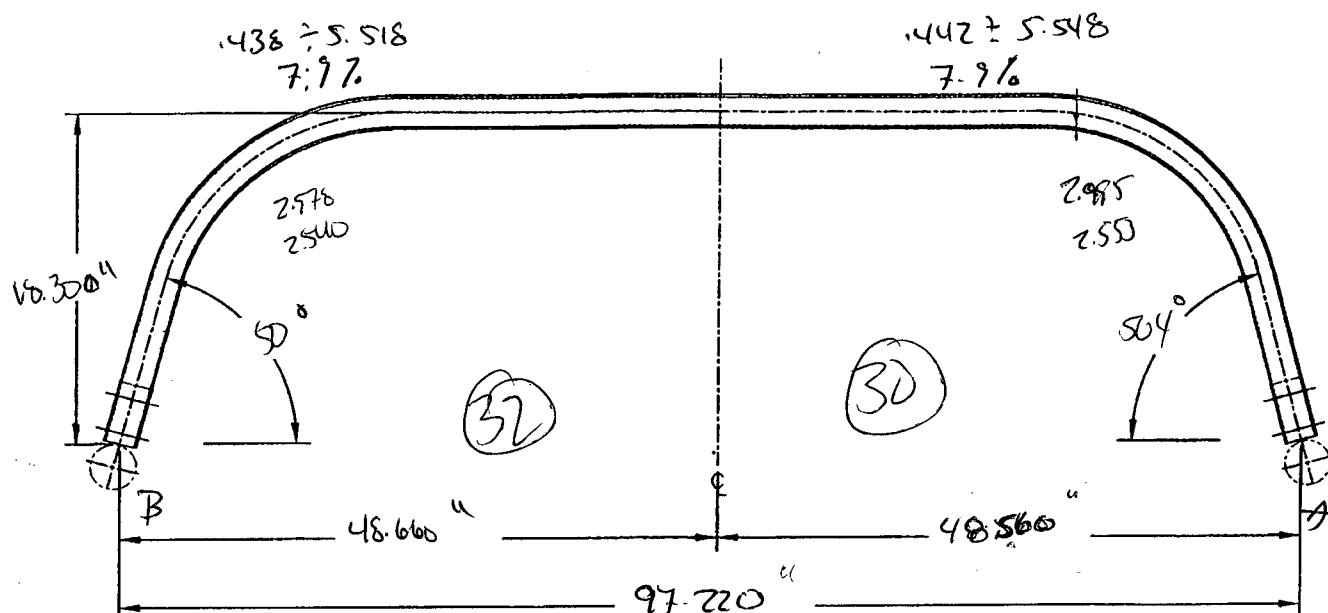
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	75277
Description: Crosstube Low Aft (205/212)		Part Number:	D212-664-207
Inspection Dwg: D212-664-247 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	18.16	18.42
1/2 Span	48.55	48.81
Angle	49	52
Total Span	97.1	97.62



Comments
Side A = 7.9% crush @ 32 passes
Side B = 7.9% crush @ 30 passes
(see note 10)

QC15 Inspection	S
Date	11/10/20

Rev	Date	Change	Revised by	Approved
A	08.02.29	New Issue	KJ/JM	
B	10.04.01	Dwg Rev updated	KJ	

Item	Qty -247	Qty -247B	Part Number	Description
1	X		D212-664-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2		X	D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	1	D6008-132	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	2	2	D3660-1	CUFF
7	4	4	MS21920-28	CLAMP (OR MS21920-30)
8	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6008-132
FINISHED LENGTH = 128.268±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF
USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-247 = 36.6 lbs (PER IIN-D212-664)
D212-664-247B = 36.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD
BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6%
BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF
D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER
INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1
SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE
SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.
DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE
UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN.-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS
NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3660-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF
SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE.
SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

W/075277

DEO ATTACHED

11-614
11.07.28

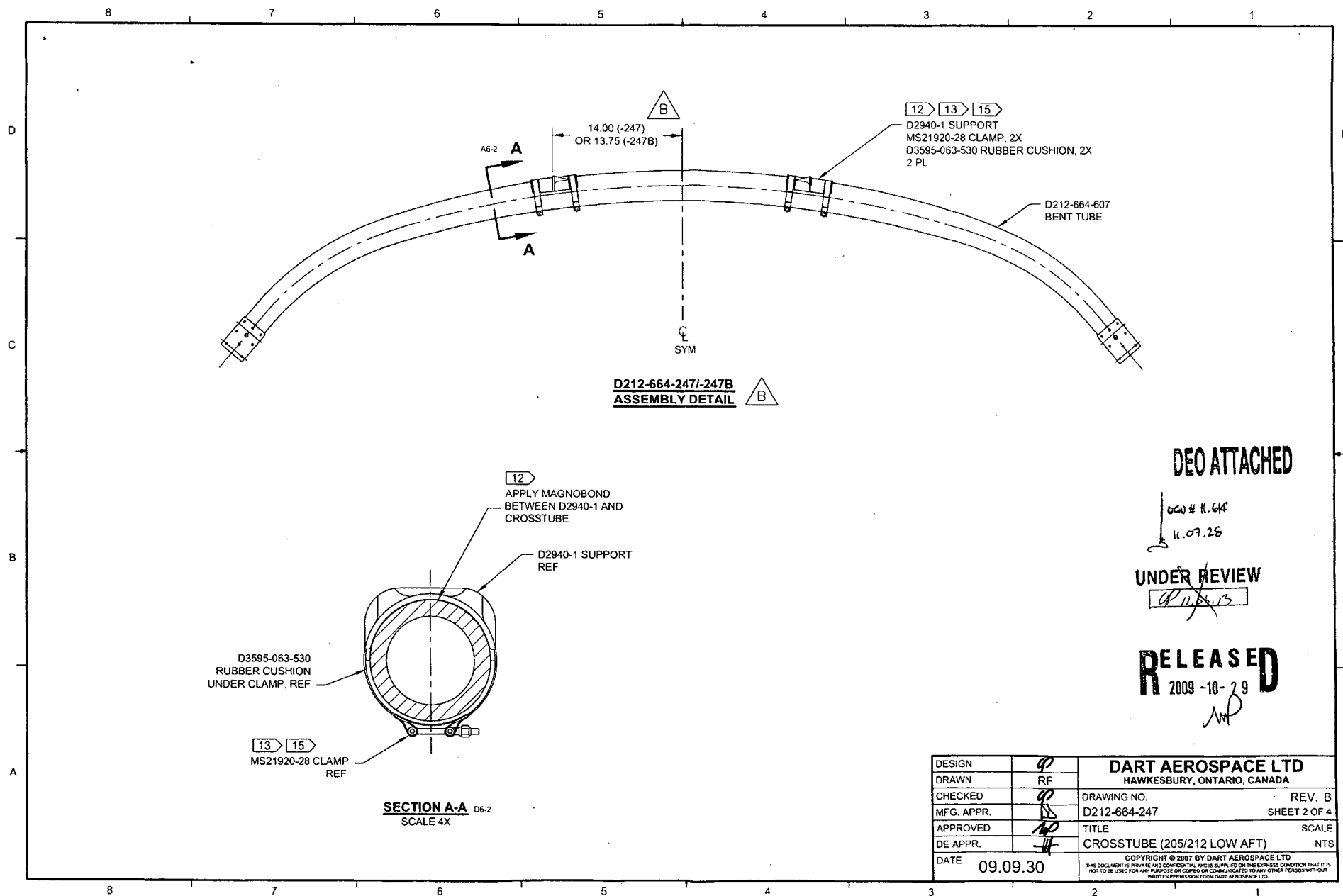
UNDER REVIEW

11.06.13

RELEASED
2009-10-79

MP

B	REVISE GENERAL NOTES/PART LIST: UPDATE TO CURRENT STANDARDS: ADD -247B (ZN C4-2, D5-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. B
CHECKED	RF	D212-664-247	SHEET 1 OF 4
MFG. APPR.	RF	TITLE	SCALE
APPROVED	RF	CROSSTUBE (205/212 LOW AFT)	NTS
DE APPR.	RF	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	09.09.30		



DEO ATTACHED

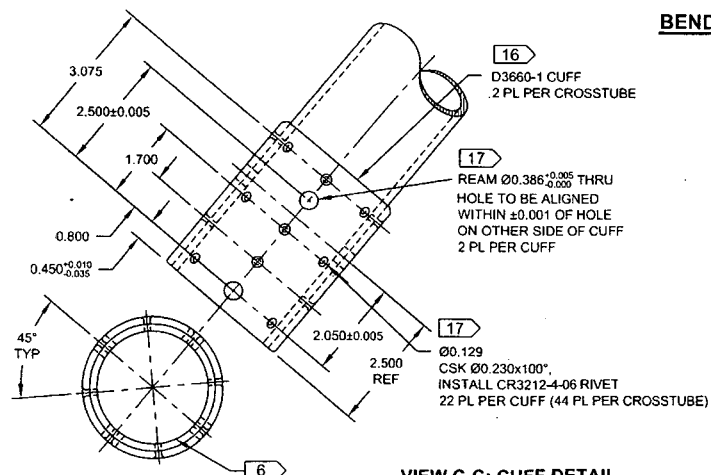
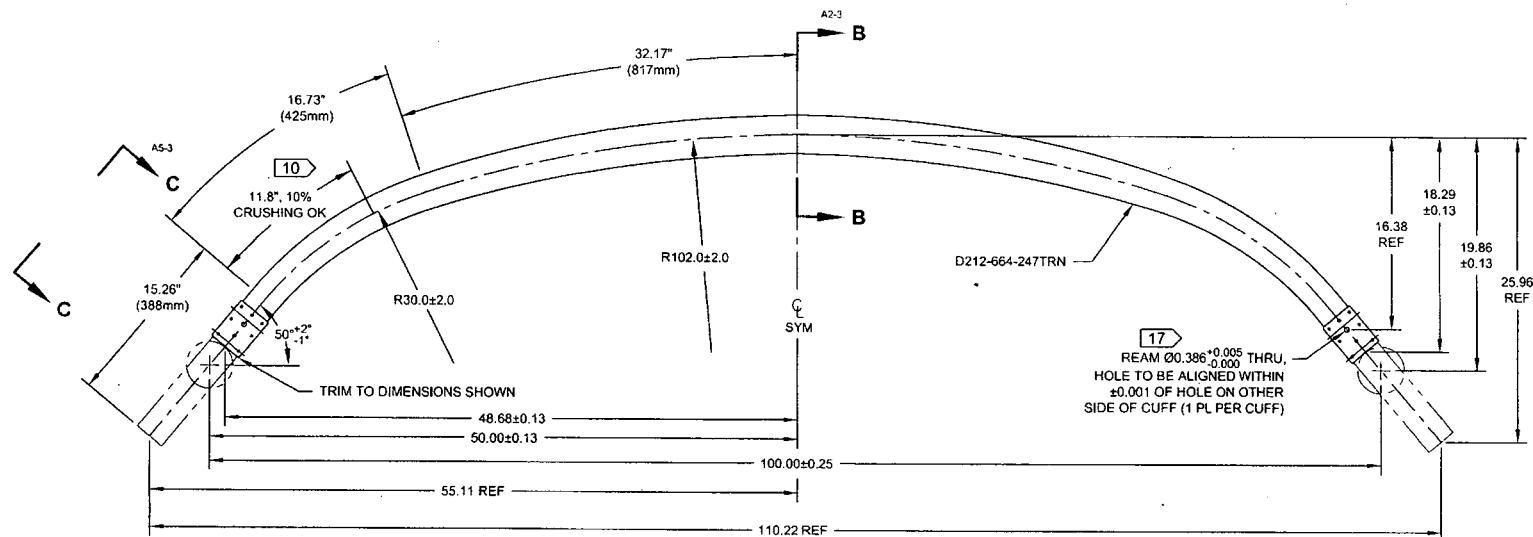
DCN # 11.648
11.07.26

UNDER REVIEW

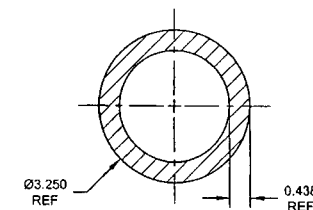
RELEASED
2009-10-29

DESIGN	9P	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9P	DRAWING NO.	REV. B
MFG. APPR.	9P	D212-664-247	SHEET 2 OF 4
APPROVED	9P	TITLE	SCALE
DE APPR.	9P	CROSSTUBE (205/212 LOW AFT)	NTS
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D212-664-607
BENDING AND DRILLING DETAIL



VIEW C-C: CUFF DETAIL D7-3
SCALE 4X



SECTION B-B D4-3
SCALE 4X

DEO ATTACHED

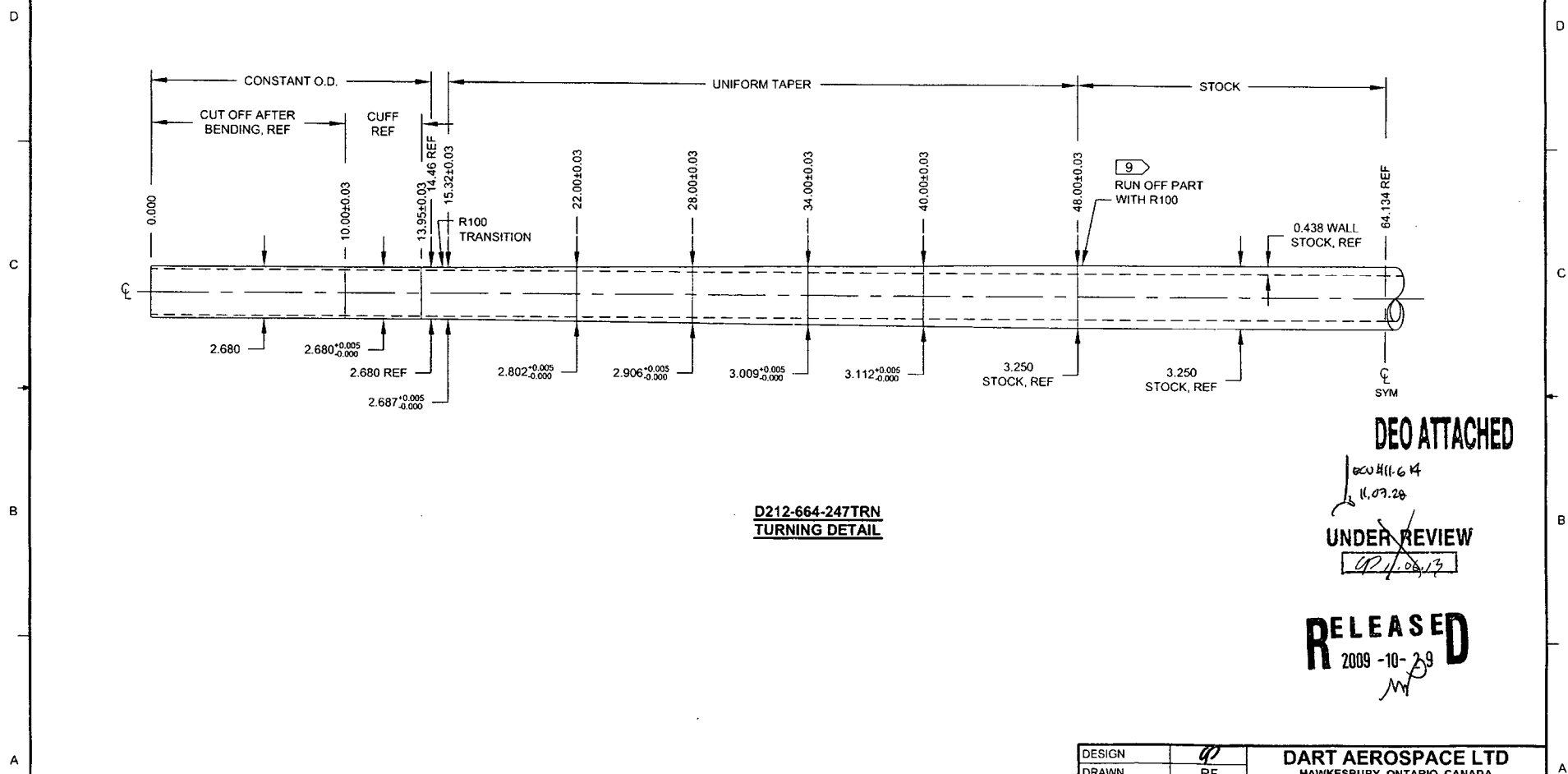
UNDER REVIEW

4/11.06.13

RELEASED
2009-10-29

DESIGN	9	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9	DRAWING NO.	REV. B
MFG. APPR.	13	D212-664-247	SHEET 3 OF 4
APPROVED	14	TITLE	SCALE
DE APPR.	14	CROSSTUBE (205/212 LOW AFT)	NT
DATE	09.09.30	COPYRIGHT © 2007 BY DART AEROSPACE LTD	
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8 7 6 5 4 3 2 1



D212-664-247TRN
TURNING DETAIL

DEO ATTACHED

200411.6 14
11.07.28

UNDER REVIEW

UP 1.06.13

RELEASED
2009-10-29
my

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D212-664-247	SHEET 4 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSSTUBE (205/212 LOW AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DRAWING NO. D212-664-247	TITLE CROSSTUBE ASS'Y (205 LOW AFT)	REV. B	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D212-664-247-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>AS</i>	APPROVED <i>MD</i>		DE APPR. <i>MD</i>		
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21		DATE 11.07.21		

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -247	Qty -247B	Part Number	Description
9	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
---	-----	-----	----------------	---

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2940-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-07-28
MD





RAPPORT D'ESSAI NON DESTRUCTIF

(SUITE)

RAPPORT #

7-11198

PAGE 2 DE 2

CLIENT Dart Aerospace DATE 27 octobre 2011 HEURE ☒ AM ☐ PM
ATTENTION Mme Linda Locelle NO. TRAVAIL ACUREN 188-11-02376

RÉSULTATS (☐ METRIQUE ☐ IMPÉRIAL)

Work	Order	ID	Crosstube	Item	ID	Data
		74992				D 212-664-107
		74991				D 212-664-207
		75277				D 212-664-207
		754990				D 212-664-207
		75314				D 212-664-107
		75313				D 212-664-107
		74976				D 212-664-107
		72743				D 407-667-205
		72742				D 407-667-205
		75310				D 212-664-107
		75540				D 212-664-207
		75542				D 212-664-207

All the crosstubes (12) Accepted.
No indication as found.

11-10-28

Étendue des Services

L'entente selon laquelle le Groupe Acuren Inc. exécute les services ne concerne que les énoncés par écrit. En aucune circonstance ces services ne s'étendent au-delà de l'exécution des services demandés. Il est entendu que toutes les descriptions, les observations et les expressions d'opinions faites par Acuren reflètent les opinions ou les observations de l'entreprise fondées sur l'information et les hypothèses fournies par le propriétaire/opérateur, et elles ne constituent pas des déclarations ou des garanties ou ne peuvent être interprétées comme constituant. Le Groupe Acuren Inc. n'assume aucune des responsabilités du propriétaire/opérateur, et le propriétaire/opérateur conserve la responsabilité entière des décisions prises en matière d'ingénierie, de fabrication, de réparation et d'usage à partir de l'information ou des données fournies par Acuren en rapport avec les services décrits dans les présentes ne peuvent excéder le coût des services rendus.

Norme de Diligence

Dans l'exécution des services, le Groupe Acuren Inc. applique le degré de diligence, le soin et la compétence normalement exercés dans des circonstances semblables par d'autres fournisseurs de ce type de services opérant dans la même localité ou dans une localité similaire. Aucune autre garantie, implicite ou explicite, n'est faite ou voulue par le Groupe Acuren Inc.

SIGNATURES

REPRÉSENTANT
À LA CLIENTÈLE

TECHNICIEN (SIGNATURE)

NAME (MOULÉE):

NIVEAU CGSB

No. ENREG. CGSB

NIVEAU SNT

No. ENREG. CGSB

NIVEAU CGSB

No. ENREG. CGSB

2^e TECHNICIEN

NIVEAU SNT

No. ENREG. CGSB

FTJ #:

RAPPORT
REVISÉ PAR:

NOM

INITIALES



P - 11198

PAGE 1 DE 2

ITEM(S) EXAMINÉ

ACCEPTATION STD

AM ☐ PM ☒

188-11-02376

15287

Dart Vine

1417/05T 030 DATE/RÉV. 2005

1270 Aberdeen St, Hawkes-
bury, Ont, K6A 1K7

Cross tubes inspection (fluorescent Penetrant)

12 x Cnootubes

2007

ÉPAISSEUR Union

DESCRIPTION	Inspection 100% (Penetrant Fluorescent) on surface external on 12x cross tubes
-------------	--

MÉTHODE : <input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> LAVABLE À L'EAU	<input type="checkbox"/> MÉTHODE DISSOLVANT	<input type="checkbox"/> PRÉ-ÉMULSIONNANT
MARQUE : Magnalux		LUM. NOIRE S/N 16440	PUISS. > 1000 μ W/cm ²	<input type="checkbox"/> AMBIANT < 2 fc
PÉNÉTRANT : Zyglo ZLG7	TEMPS PÉNÉTRATION MIN. 10 MIN.	ÉQUIP. LUMIÈRE	<input type="checkbox"/> LAMP. POCHE	<input type="checkbox"/> LAMP. CULASSE
DISSOLVANT PÉNÉTRANT H ₂ O	TEMPS SÉCHAGE MIN. >10 MIN.	AUTRES	Modèle LABINO	
RÉVÉLATEUR SKD-52	TEMPS PÉNÉTRATION MIN. 10 MIN.	MÈTRE LUM. N/S	DATE CAL DUE	
TYPE RÉVÉLATEUR <input checked="" type="checkbox"/> NON AQUEUX	<input type="checkbox"/> AQUEUX	<input type="checkbox"/> SEC		

SURFACE INSPECTÉE

CONDITION SURFACE	<input type="checkbox"/> MEULÉE	<input type="checkbox"/> SOUDÉE	<input type="checkbox"/> MACHINÉE	<input type="checkbox"/> GRENAILLÉE	<input checked="" type="checkbox"/> MÉTAL PROPRE
TEMPÉRATURE SURFACE	<input type="checkbox"/> < - 4°C/ 20°F	<input type="checkbox"/> - 4°C/ 20°F DE 10°C/50°F	<input checked="" type="checkbox"/> 10°C/50°F DE 52°C/125°F		<input type="checkbox"/> > 52°C/125°F

RÉSULTATS- ☐ MÉTRIQUE ☐ IMPÉRIAL

See
Other
Sheet
for
Results

11-10-28

Étendue des Services

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SIGNATURES

REPRÉSENTANT

TECHNICIEN (SIGNATURE) _____

NOM (MOULÉ):

ONGC NIVEAU

2 SNT NIVEAU

ONGC N° REG.

12205

ONGC NIVEAU

SNT NIVEAU

ONGC N° REG

FTJ#

RAPPORT

RÉVISÉ PAR:

NOM

INITIALES